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bly parasitic, though we failed to demonstrate that. We were especially careful in noting the surroundings, because one purpose of our visit was to prove or disprove its parasitism on *Artemisia.*

EVANSTON, ILL., Aug. 15, 1889. L. N. JOHNSON.

*Rose specimens for M. Crépin.* Dr. G. N. Best requests those having specimens of North American Roses to be sent to Brussels for M. Crépin, to transmit them to him by mail at Rosemont or by express at Centre Bridge, N. J., not later than Jan. 1st.

*A Correction.* The statement on page 286 of the November BULLETIN, that *Lobelia Dortmanna*, *Utricularia intermedia*, *Limnanthemum* and *Eriocaulon septangulare* were new to the Flora of Ontario, when collected at Lake Muskoka by members of the Botanical Club of the American Association, ought not to have been made, for all these had previously been collected and even recorded in Professor Macoun's Catalogue. Our apologies are due him and his diligent colleagues for this inadvertence. *Subularia* and *Elatine* were, however, unrecorded from the province.

## Reviews of Foreign Literature.

*British Moss-Flora.* R. Braithwaite. Part XII.

This portion completes one-half of the work, and includes *Zygodon*, *Orthotrichum*, *Weissia* and *Schistostega*. The treatment of that difficult genus *Orthotrichum* is based principally on that of Lindberg (1866), and derives many good points from Venturi (1887), figures of the stomata and cross-sections of the leaves being given in all cases. Of the thirty-three species included in Lesquereux' and James' Manual fourteen are native of England also, so that much help may be obtained by a study of Dr. Braithwaite's work; also the key to the species will be found of great assistance. The following changes from the Manual may be noted:—*O. Sturmii*, Hornsch., is reduced to a variety of *O. rupestre*, Schleich.; *O. leiocarpum*, Br. and Sch., returns to its old name, *O. striatum* (L.), Hedw.; *O. fallax*, Schimp., is *O. Schimperi*, Hammar; *O. strangulatum*, Beauv., is reduced to a synonymn of *O. cupulatum*, Hoffm. It will be seen from this that Dr. Braithwaite does not adopt Lindberg's *Dorcadion* for *Orthotrichum*, but he does take up Ehrhart's *Weissia* for *Ulota* and six of the species are ours also. *Ulota Hutchinsiæ* changes to *Weissia Americana* (P. Beauv.), Lindb.; *U. Ludwigii* to *Weissia coarctata* (P. Beauv.), Lindb.; *U. Drummondii*, Brid., to *W. Drummondii* (Hook. and Grev.), Lindb.; *U. Bruchii* to *W. Bruchii* (Hornsch.), Lindb.; *U. phyllantha* to *W. phyllantha* (Brid.), Lindb.; and *U. crispa* becomes *W. ulophylla*, Ehrh., and includes *U. crispula* as a variety. We rejoice in this combination and think that Mitten's *U. Americana* should also be included. More prominence is given to general characters than to minute variations of the capsules and peristome, and the result is great clearness and simplicity. E. G. B.

*Aerenchyma: A New Paper on Plant Aeration.*—In a recent number of pringsheim is an article by Dr. H. Schenck of Bonn University, entitled "Aerenchym a tissue of swamp plants homologous with cork in land plants." In this paper are given the results of the study of a large number of swamp plants belonging to nine different families, which he examined with respect to the peculiar tissue which he characterizes as Aerenchym. This tissue is peculiar first in respect to its origin, second its function.

The author claims that to the various kinds of tissue developed by the phellogen must be added this one. With the exception of the roots of *Jussiæa*, this tissue comes exclusively from the phellogen layer; in the roots of this genus the original rind cells form a part of it, but these are added to and completed by cells developed from the phellogen.

As to its function, it is claimed that as this tissue is invariably produced by plants belonging to very different families whenever these plants are subject to certain conditions, it is therefore probable that its function is in all cases one and the same. This function, he says, is that of supplying the submerged part of the plant with the necessary oxygen for respiration. It is held by certain other botanists that in a number of these plants the tissue performs the office of swimming organs.

In answer to this, he says the "aerotropische" roots of *Jussiæa Peruviana* cannot be considered as swimming organs, and that those free swimming plants related to this may have inherited the tendency to produce this tissue, although at present no longer requiring it for breathing purposes. These roots he describes as a second form, springing from the submerged stem, and growing upward toward the surface of the water ; he compares them to those of other water plants which appear to have a similar means of furnishing themselves with a larger supply of oxygen than that furnished by ordinary means ; among these he mentions the Cypress knees, or aerial roots of *Taxodium*.

In a supplementary note to this article the author says, that through the kindness of Mr. Pammel, of St. Louis, he has learned that plants belonging to the family Lythraceæ develop this tissue when growing in swampy places in Missouri, U. S. A. As an example he gives *Nesœa verticillata*, with a short description of its anatomy. To this brief mention of the American plants of this family may be added a notice printed five years ago in the BULLETIN by Dr. Britton, in which he called attention to this peculiar tissue in *Nesœa verticillata*, now so carefully described by Prof. Jos. Schrenk. E. L. G.

BARNARD COLLEGE, Nov. 15.

## Index to Recent American Botanical Literature.

*Agarics—North American*. Robert K. Macadam. (Journ. Mycol. v. 135–141, continued).

Thirteen species of the genus *Russula* are described.

*Algis et Characeis—De*. Otto Nordstedt. (Aftryck af Lunds Universitets Arsskrift, Tom. xxv. Pamph. 4to, pp. 40, illustrated).

Part three contains descriptions of two new Brazilian desmids, *Gynozyga armata* and *Desmidium curvatum*, both figured.

*Araucaria imbricata*. (Garden, xxxvi. 370, 371, illustrated).

*Boleti of the United States*. Chas. H. Peck. (Bull. No. 8, N. Y. State Museum, Pamph. 8vo. p.p. 166, Albany, 1889).

Some one hundred species are enumerated, included in the three genera *Boletinus*, *Boletus* and *Strobilomyces*. The work is well and clearly printed, with ample margin to the pages, and is a credit to both author and printer.

*Bonduc Seeds*. H. H. Rusby. (Reprint from Drug. Bull., Oct. 1889, illustrated). *Cæsalpinia Bonducella* and *C. Bonduc* are figured.

*Botanical Club of the A. A. A. S* (Bot. Gaz. xiv. 262–268).